

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A data contents processing method, comprising:

separating audio/video (A/V) signals and data contents upon receipt of a broadcast signal and extracting information on a current channel and a program identifier, wherein the data contents are related to a television program;

constructing a database by forming an integrated information of a channel/program identifier information and data contents in connection with each other, wherein the channel/program identifier information is an intrinsic identifier related to the television program, and the intrinsic identifier includes a television channel ID, television program ID, and data contents ID;

checking whether or not the data contents to be displayed are consistent with the current A/V signal according to the integrated information;

performing conversion of data contents if it is found that the data contents to be displayed are not consistent with the current A/V signal, and not performing the conversion of the data contents if it is found that the data contents to be displayed are consistent with the current A/V signal; and

displaying the A/V signal and the data contents,

wherein the conversion of data contents includes receiving data content consistent with the current A/V signal, and

wherein, in the performing step, when user-desired data contents are selected by means of a browser for controlling data contents, the current channel is tuned in to a new channel corresponding to the selected data contents.

2. (Previously Presented) The method according to claim 1, wherein the performing step further comprises controlling a channel conversion.

3. (Previously Presented) The method according to claim 1, wherein, in the performing step, when the user converts the current channel to a new channel using a channel converter, data contents corresponding to the new channel are selected.

4. (Canceled)

5. (Previously Presented) The method according to claim 1, wherein the displaying step further comprises displaying only the broadcast channel corresponding to the A/V signal.

6. (Previously Presented) The method according to claim 1, wherein the data contents processing method further comprises:

adjusting a channel so as to display A/V signals or A/V signals and data contents, or
inputting a user command signal corresponding to a forward/backward function of a browser.

7. (Currently Amended) A data contents processing method, comprising:
separating audio/video (A/V) signals and data contents upon receipt of a broadcast signal of a bit stream and extracting information on a current channel of the broadcast signal

corresponding to the bit stream and a program identifier, wherein the data contents are related to a television program;

constructing a database by forming an integrated information of a channel/program identifier information~~channel information, program identifier~~, and data contents in connection with one another, wherein the channel/program identifier information is an intrinsic identifier related to the television program, and the intrinsic identifier includes a television channel ID, television program ID, and data contents ID;

judging whether or not the data contents to be displayed and a current A/V signal are consistent with each other according to the integrated information;

performing conversion of data contents if it is found that the data contents to be displayed are not consistent with the current A/V signal, and not performing the conversion of the data contents if it is found that the data contents to be displayed are consistent with the current A/V signal; and

displaying the A/V signal and the data contents upon receipt of the data contents corresponding to the A/V signal,

wherein the conversion of data contents includes receiving data content consistent with the current A/V signal, and

wherein if a browser function is not operated, only the A/V signal is displayed.

8. (Original) The method according to claim 7, wherein, in the displaying step, if the data contents to be displayed are consistent with the current A/V signal according to the integrated information, the A/V signal and the corresponding data contents are displayed.

9. (Previously Presented) The method according to claim 7, wherein, in the displaying step, if the data contents corresponding to the A/V signal cannot be received again, a message that the A/V signal cannot be displayed or a function of a browser is not operable is displayed.

10. (Previously Presented) The method according to claim 7, wherein the step of judging whether or not the data contents are consistent with the current A/V signal further comprises:

controlling the channel and a browser according to a user's request; and
storing the A/V signal and data contents from the corresponding channel and site.

11. (Canceled)

12. (Currently Amended) An apparatus for data contents processing, comprising:
an inverse multiplexing unit configured for separating audio/video (A/V) signals and data contents upon receipt of a broadcast signal of a bit stream and extracting information on a channel of the broadcast signal corresponding to the bit stream and a program identifier, wherein the data contents are related to a television program;

a database constructing unit configured for constructing a database by forming an integrated information of a ~~channel information, program identifier, channel/program identifier~~ information and data contents in connection with one another, wherein the channel/program

identifier information is an intrinsic identifier related to the television program, and the intrinsic identifier includes a television channel ID, television program ID, and data contents ID;

an A/V interface control unit configured for judging whether or not the data contents to be displayed and the current A/V signal are consistent with each other according to the integrated information; and

a browser unit configured for displaying to a display unit the current A/V signal and the database contents,

wherein if the A/V interface control unit judges that the data contents to be displayed are not consistent with the current A/V signal according to the integrated information, the browser unit performs conversion of data content and displays to the display unit the A/V signal and the data contents upon receipt of the data contents corresponding to the A/V signal,

wherein if the A/V interface control unit judges that the data contents to be displayed are consistent with the current A/V signal according to the integrated information, the browser unit displays to the display unit the A/V signal and the data contents upon receipt of the data contents corresponding to the A/V signal without performing the conversion of data,

wherein the conversion of data contents includes receiving data content consistent with the current A/V signal, and

wherein, when the user selects data contents by means of a forward/backward function of the browser, the A/V data interface control unit checks whether or not the currently displayed channel corresponds to the selected data contents according to the integrated information, and, if the channel does not correspond to the selected contents, the A/V data interface control unit

controls the inverse multiplexing unit to tune in to the channel corresponding to the selected data contents.

13. (Original) The apparatus according to claim 12, wherein the browser unit further comprises a forward/backward function.

14. (Original) The apparatus according to claim 12, wherein the display unit displays the A/V signal outputted from the inverse multiplexing unit.

15. (Original) The apparatus according to claim 12, wherein the database constructing unit further comprises a storage unit for storing the separated data contents.

16. (Original) The apparatus according to claim 12, wherein the integrated information is a tree data structure in which a plurality of programs corresponding to one channel are connected to the channel, and a plurality of data contents corresponding to each program are connected to the program.

17. (Previously Presented) The apparatus according to claim 12, wherein, when the user converts the channel using a channel conversion key, the A/V data interface control unit checks whether or not the currently displayed data contents are the data contents corresponding to the converted channel according to the integrated information, and, if the currently displayed data contents are not the data contents corresponding to the converted channel, the A/V data

interface control unit controls the browser to select the data contents corresponding to the converted channel.

18. (Canceled)

19. (Previously Presented) The method according to claim 1, wherein a forward/backward function of the browser is used to select the data contents.

20. (Currently Amended) A data content processing method comprising:

receiving a bit stream of a broadcast signal;

separating audio/video (A/V) signals from data contents from the bit stream of a selected channel, wherein the data contents are related to a television program;

upon receipt of a channel change request, determining whether current data contents correspond to the requested channel, changing the data contents to correspond to the requested channel if it is determined that the current data contents do not correspond to the requested channel, and taking no action to change the data contents if it is determined that the current data contents do correspond to the requested channel, wherein the requested channel becomes the selected channel;

upon receipt of a data content change request, determining whether a current channel corresponds to the requested data content change, changing the channel to correspond to the requested data content change if it is determined that the current channel does not correspond to the requested data content change, and taking no action to change the channel if it is determined

that the current channel does correspond to the requested data content change, wherein the changed channel becomes the selected channel; and

displaying A/V signals and corresponding data contents of the selected channel based on an integrated information of a channel/program identifier information and the data contents in connection with one another, wherein the channel/program identifier information is an intrinsic identifier related to the television program, and the intrinsic identifier includes a television channel ID, television program ID, and data contents ID.

21. (Previously Presented) The method of claim 20, wherein in the displaying step, if a browser unit is not operating, displaying the A/V signals of the selected channel only.

22. (Previously Presented) The method of claim 20, wherein upon receipt of the data content change request, the method further comprises:

determining whether the requested content is in a local storage;

retrieving the requested content from the local storage if it is determined that the requested content is in the local storage; and

retrieving the requested content from the received bit stream if it is determined that the requested content is not in the local storage.

23. (Previously Presented) The method of claim 22, wherein if the requested content is not in the local storage and the requested content cannot be retrieved from the received bit

stream, the method further comprises displaying a message indicating that the requested content cannot be displayed.

24. (Previously Presented) The method of claim 20, further comprising constructing a database of integrated information of channels and corresponding data contents from the received bit stream.

25. (Previously Presented) The method of claim 24, wherein the step of determining whether current data contents correspond to the requested channel change, is performed based on the database of the integrated information.

26. (Previously Presented) The method of claim 24, wherein the step of determining whether the current channel corresponds to the requested data content change, is performed based on the database of the integrated information.

27. (Currently Amended) An apparatus to perform data content processing, comprising:

an inverse multiplexer configured for receiving a bit stream of a broadcast signal and for separating audio/video (A/V) signals from data contents from the bit stream of a selected channel, wherein the data contents are related to a television program;

a browser configured for controlling display of the data contents;

a data interface unit configured for:

upon receipt of a channel change request, determining whether current data contents correspond to the requested channel, changing the data contents to correspond to the requested channel if it is determined that the current data contents do not correspond to the requested channel, and taking no action to change the data contents if it is determined that the current data contents do correspond to the requested channel, wherein the requested channel becomes the selected channel; and

upon receipt of a data content change request, determining whether a current channel corresponds to the requested data content change, changing the channel to correspond to the requested data content change if it is determined that the current channel does not correspond to the requested data content change, and taking no action to change the channel if it is determined that the current channel does correspond to the requested data content change, wherein the changed channel becomes the selected channel; and

a display unit for displaying A/V signals and corresponding data contents of the selected channel based on an integrated information of a channel/program identifier information and the data contents in connection with one another, wherein the channel/program identifier information is an intrinsic identifier related to the television program, and the intrinsic identifier includes a television channel ID, television program ID, and data contents ID.

28. (Previously Presented) The apparatus of claim 27, wherein if the browser unit is not operating, the display unit is configured for displaying the A/V signals of the selected channel only.

29. (Previously Presented) The apparatus of claim 27, wherein upon receipt of the data content change request, the data interface unit is configured for:

determining whether the requested content is in a local storage;

controlling the browser to retrieve the requested content from the local storage if it is determined that the requested content is in the local storage; and

controlling the browser to retrieve the requested content from the received bit stream if it is determined that the requested content is not in the local storage.

30. (Previously Presented) The apparatus of claim 29, wherein if the browser determines that the requested content is not in the local storage and the requested content cannot be retrieved from the received bit stream, the data interface unit is configured for controlling the display unit to display a message indicating that the requested content cannot be displayed.

31. (Previously Presented) The apparatus of claim 27, further comprising a database constructing unit configured for constructing a database of integrated information of channels and corresponding data contents received from the inverse multiplexer.

32. (Previously Presented) The apparatus of claim 31, wherein the data interface unit determines whether current data contents correspond to the requested channel change based on the database of the integrated information.

33. (Previously Presented) The apparatus of claim 31, wherein the data interface unit determines whether the current channel corresponds to the requested data content change based on the database of the integrated information.